

# SEQUENCE LISTING

<110> Allen, Steve  
 Lightner, Jonathan  
 Rafalski, Antoni

<120> BRITTLE-1 HOMOLOGS

<130> BB1157 US CIP

<140> 09/796,766

<141> March 1, 2001

<150> 09/668884

<151> 2000-09-25

<150> PCT/US99/06583

<151> 1999-03-22

<150> 60/079420

<151> 1998-03-26

<160> 21

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<211> 539

<212> DNA

<213> Hordeum vulgare

<400> 1

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atggaaagag gatggatgcc caaagataca gcttggtaat atgaacatcg agattccact 180
ccacttggtta tctccagttg ctattgctgg tgcggccgct ggaatcgctg gcacattgat 240
gtgccatcct cttgaagtta ttaaggatcg gctgaccgtg gatcgagtga cttatcctag 300
cattagcatt gccttcagca agatatatcg aactgaagggt atcagaggtc tctattctgg 360
cctctgcccc aactaattg gcatgcttcc ttacagcaca tgctactact ttatgtacga 420
tacaatcaag acgtcgtact gccgcctaca taagaagaaa tccttgagcc gtcctgagct 480
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<211> 112

<212> PRT

<213> Hordeum vulgare

<400> 2

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Leu Glu Val Ile Lys Asp Arg Leu Thr Val Asp Arg Val Thr Tyr Pro
      20              25              30

Ser Ile Ser Ile Ala Phe Ser Lys Ile Tyr Arg Thr Glu Gly Ile Arg
      35              40              45

Gly Leu Tyr Ser Gly Leu Cys Pro Thr Leu Ile Gly Met Leu Pro Tyr
      50              55              60
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Ser Thr Cys Tyr Tyr Phe Met Tyr Asp Thr Ile Lys Thr Ser Tyr Cys  
65 70 75 80

Arg Leu His Lys Lys Lys Ser Leu Ser Arg Pro Glu Leu Leu Ile Ile  
85 90 95

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<213> Hordeum vulgare

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atggaaagag gatggatgcc caaagataca gcttggtaat atgaacatcg agattccact 180  
ccacttggtta tctccagttg ctattgctgg tgcggccgct ggaatcgctg gcacattgat 240  
gtgccatcct cttgaagtta ttaaggatcg gctgaccgtg gatcgagtga cttatcctag 300  
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cctctgcccc acactaattg gcatgcttcc ttacagcaca tgctactact ttatgtacga 420  
tacaatcaag acgtcgtagt gccgcctaca taagaagaaa tccttgagcc gtccctgagct 480  
actaattata ggagctctga caggtctcac ggcaagcacg atcagcttcc cgttggaggt 540  
ggcgaggaag cggctcatgg tgggcgcctt gcagggggaag tgcccgcacca acatggtggc 600  
ggccctgtca gaagtgatcc gggaggaggg cctcctgggg atctaccgtg ggtggggggc 660  
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ccacctctgc ctgtgccgaa ctgctagata ggaggaaact gcggttgcaa ttgctgtcgg 960  
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<211> 252  
<212> PRT  
<213> Hordeum vulgare

<400> 4  
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20 25 30

Gly Met Arg Ser Ala Gln Glu Lys Trp Lys Glu Asp Gly Cys Pro Lys  
35 40 45

Ile Gln Leu Gly Asn Met Asn Ile Glu Ile Pro Leu His Leu Leu Ser  
50 55 60

Pro Val Ala Ile Ala Gly Ala Ala Ala Gly Ile Ala Gly Thr Leu Met  
65 70 75 80

Cys His Pro Leu Glu Val Ile Lys Asp Arg Leu Thr Val Asp Arg Val  
85 90 95

Thr	Tyr	Pro	Ser	Ile	Ser	Ile	Ala	Phe	Ser	Lys	Ile	Tyr	Arg	Thr	Glu			
			100					105					110					
Gly	Ile	Arg	Gly	Leu	Tyr	Ser	Gly	Leu	Cys	Pro	Thr	Leu	Ile	Gly	Met			
		115					120					125						
Leu	Pro	Tyr	Ser	Thr	Cys	Tyr	Tyr	Phe	Met	Tyr	Asp	Thr	Ile	Lys	Thr			
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Ser	Tyr	Cys	Arg	Leu	His	Lys	Lys	Lys	Ser	Leu	Ser	Arg	Pro	Glu	Leu			
	145				150					155					160			
Leu	Ile	Ile	Gly	Ala	Leu	Thr	Gly	Leu	Thr	Ala	Ser	Thr	Ile	Ser	Phe			
			165					170						175				
Pro	Leu	Glu	Val	Ala	Arg	Lys	Arg	Leu	Met	Val	Gly	Ala	Leu	Gln	Gly			
		180						185					190					
Lys	Cys	Pro	Pro	Asn	Met	Val	Ala	Ala	Leu	Ser	Glu	Val	Ile	Arg	Glu			
		195					200					205						
Glu	Gly	Leu	Leu	Gly	Ile	Tyr	Arg	Gly	Trp	Gly	Ala	Ser	Cys	Leu	Lys			
	210					215					220							
Val	Met	Pro	Asn	Ser	Gly	Ile	Thr	Trp	Met	Phe	Tyr	Glu	Ala	Trp	Lys			
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 <213> Oryza sativa  
  
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 <222> (325)

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<221> unsure

<222> (352)

<223> n = a, c, g or t

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<222> (392)

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<222> (399)

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<222> (407)

<223> n = a, c, g or t

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<221> unsure

<222> (418)..(419)

<223> n = a, c, g or t

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<221> unsure

<222> (422)

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<222> (436)

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ggcgangaag cggcttatgg ttggaaccct gcaagggaaa tgcccgcccc acatgatcgc 180
ggtnccttagc tgaggtgttc caagaggagg gcatcaaggg actttaccgc ggatgggccg 240
caagctccct gaaggtgatg ccgacctccg gcattacctg gatgttctat ggagggatgg 300
gnagggncat tccttttggg ctccnagagc ctgcacaccc taagccacct angcaaggtc 360
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436

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<212> PRT  
<213> Oryza sativa  
  
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Gly Ala Leu Ser Gly Leu Thr Ala Ser Thr Ile Ser Phe Pro Leu Glu  
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Val Ala Xaa Lys Arg Leu Met Val Gly Thr Leu Gln Gly Lys  
35 40 45

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<212> DNA  
<213> Glycine max

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atgtcgtctt ccaactccaa aaccaaaacc ccttcttcac tctactctg caactctaag 180  
cctcagcctc aggaaggtaa catggcattg gaatcccaac cgcagaagaa caagtatgga 240  
cacgggggtg ttggagacgt ctacagcatc atcaaagaga tggagattga tcatcataac 300  
aactctacct ttgattttca atttcccca attacaaatt ttcttggtc tagagagggt 360  
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tatagttcca acacaggcca ttgagctagg cacatttgag tgtgtcaaac gggctatgac 600  
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<212> PRT  
 <213> Glycine max

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 Leu Glu Val Leu Lys Asp Arg Leu Thr Val Ser Pro Glu Thr Tyr Pro  
                     20                    25                    30  
 Ser Leu Gly Ile Ala Ile Arg Asn Ile Tyr Lys Asp Gly Gly Val Gly  
                     35                    40                    45  
 Ala Phe Tyr Ala Gly Ile Ser Pro Thr Leu Val Gly Met Leu Pro Tyr  
                     50                    55                    60  
 Ser Thr Cys Phe Tyr Phe Met Tyr Asp Thr Ile Lys Glu Ser Tyr Cys  
                     65                    70                    75                    80  
 Arg Thr Lys Ser Lys Lys Ser Leu Ser Arg Pro Glu Met Leu Leu Ile  
                     85                    90                    95  
 Gly Ala Leu Ala Gly Phe Thr Ala Ser Thr Ile Ser Phe Pro Leu Glu  
                     100                    105                    110  
 Val Ala Arg Lys Arg Leu Met Val Gly Ala Leu Gln Gly Lys Cys Pro  
                     115                    120                    125  
 Pro Asn Met ala Ala Ala Leu Ser Glu Val Ile Arg Glu Glu Gly Leu  
                     130                    135                    140  
 Lys Gly Leu Tyr Arg Gly Trp Gly Ala Ser Cys Leu Lys Val Met Pro  
                     145                    150                    155                    160  
 Ser Ser Gly Ile Thr Trp Met Phe Tyr Glu Ala Trp Lys Asp Ile Leu  
                     165                    170                    175  
 Leu Val Gln Asn  
                     180

<210> 9  
 <211> 1506  
 <212> DNA  
 <213> Glycine max

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 cctcagcctc aggaaggtaa catggcattg gaatcccaac cgcagaagaa caagtatgga 240  
 cacgggggtg ttggagacgt ctacagcatc atcaaagaga tggagattga tcatcataac 300  
 aactctacct ttgattttca atttccccca attacaaatt ttcttggctc tagagagggt 360  
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 atagaggtta tagagcagca gggatggcaa ggactgtggg ctggaaacat gatcaatatg 540  
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 atgacatccc tgcattgagaa atgggaaagc aatgaatacc ccaagttgca gataggtccc 660  
 atcaatttca acttatcttt atcttggatt tcaccagttg ccacgcggcg tgcagctgct 720  
 ggaattgcta gcaactctgt atgccatccc cttgaagttt tgaaggaccg gttaactgta 780

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agtcctgaaa cttaccctag tttaggcatt gcgattagaa atattttataa agacggaggt 840
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<210> 10
<211> 410
<212> PRT
<213> Glycine max

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Val Lys Asn Asn Phe Thr Glu Pro Thr Arg Pro Gln Ile Lys Asn Lys
          20          25          30

Met Ser Ser Ser Asn Ser Lys Thr Lys Thr Pro Ser Ser Leu Ser Leu
          35          40          45

Cys Asn Ser Lys Pro Gln Pro Gln Glu Gly Asn Met Ala Leu Glu Ser
          50          55          60

Gln Pro Gln Lys Asn Lys Tyr Gly His Gly Val Phe Gly Asp Val Tyr
          65          70          75          80

Ser Ile Ile Lys Glu Met Glu Ile Asp His His Asn Asn Ser Thr Phe
          85          90          95

Asp Phe Gln Phe Pro Pro Ile Thr Asn Phe Leu Gly Ser Arg Glu Val
          100          105          110

Arg Glu Phe Ile Ser Gly Ala Leu Ser Gly Ala Met Thr Lys Ala Ile
          115          120          125

Leu Ala Pro Leu Glu Thr Ile Arg Thr Arg Met Val Val Gly Val Gly
          130          135          140

Ser Lys Asn Ile Ala Gly Ser Phe Ile Glu Val Ile Glu Gln Gln Gly
          145          150          155          160

Trp Gln Gly Leu Trp Ala Gly Asn Met Ile Asn Met Leu Arg Ile Val
          165          170          175

Pro Thr Gln Ala Ile Glu Leu Gly Thr Phe Glu Cys Val Lys Arg Ala
          180          185          190

Met Thr Ser Leu His Glu Lys Trp Glu Ser Asn Glu Tyr Pro Lys Leu
          195          200          205

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Gln Ile Gly Pro Ile Asn Phe Asn Leu Ser Leu Ser Trp Ile Ser Pro  
 210 215 220  
 Val Ala Ile Ala Gly Ala Ala Ala Gly Ile Ala Ser Thr Leu Val Cys  
 225 230 235 240  
 His Pro Leu Glu Val Leu Lys Asp Arg Leu Thr Val Ser Pro Glu Thr  
 245 250 255  
 Tyr Pro Ser Leu Gly Ile Ala Ile Arg Asn Ile Tyr Lys Asp Gly Gly  
 260 265 270  
 Val Gly Ala Phe Tyr Ala Gly Ile Ser Pro Thr Leu Val Gly Met Leu  
 275 280 285  
 Pro Tyr Ser Thr Cys Phe Tyr Phe Met Tyr Asp Thr Ile Lys Glu Ser  
 290 295 300  
 Tyr Cys Arg Thr Lys Ser Lys Lys Ser Leu Ser Arg Pro Glu Met Leu  
 305 310 315 320  
 Leu Ile Gly Ala Leu Ala Gly Phe Thr Ala Ser Thr Ile Ser Phe Pro  
 325 330 335  
 Leu Glu Val Ala Arg Lys Arg Leu Met Val Gly Ala Leu Gln Gly Lys  
 340 345 350  
 Cys Pro Pro Asn Met Ala Ala Ala Leu Ser Glu Val Ile Arg Glu Glu  
 355 360 365  
 Gly Leu Lys Gly Leu Tyr Arg Gly Trp Gly Ala Ser Cys Leu Lys Val  
 370 375 380  
 Met Pro Ser Ser Gly Ile Thr Trp Met Phe Tyr Glu Ala Trp Lys Asp  
 385 390 395 400  
 Ile Leu Leu Val Gln Asn Gly Asn Pro Leu  
 405 410

<210> 11  
 <211> 504  
 <212> DNA  
 <213> Glycine max

<400> 11  
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 tggcttgtat agaggtttgg gaccaagttg cttaaaattg gttcctgctg ctgggatttc 180  
 tttcatgtgc tacgaagctt gcaagaggat acttggttgaa aatgaacaag attaattaca 240  
 agtggatcac tgcataattc ttccatggga tatattggca ttgttttgtg tttttgaaga 300  
 gggaaataat ttgtcgagct aatttttggg tttgcagatt ttgcttttcc ttgcatattt 360  
 gaccatttca actagggtgt ttcttttaag ttgcattggc ttttaaggaaa aaagttgtat 420  
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 aaaaaaaaaa aaaaaaaaaa aaaa 504

<210> 12  
 <211> 76  
 <212> PRT  
 <213> Glycine max



<400> 12  
Ala Pro Phe Pro Leu Glu Val Val Val Lys His Met Gln Ala Gly Ala  
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Leu Asn Glu Arg Gln Tyr Gly Asn Met Leu His Ala Leu Val Ser Ile  
20 25 30  
Leu Lys Lys Glu Gly Val Gly Gly Leu Tyr Arg Gly Leu Gly Pro Ser  
35 40 45  
Cys Leu Lys Leu Val Pro Ala Ala Gly Ile Ser Phe Met Cys Tyr Glu  
50 55 60  
Ala Cys Lys Arg Ile Leu Val Glu Asn Glu Gln Asp  
65 70 75

<210> 13  
<211> 1089  
<212> DNA  
<213> Glycine max

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ggatggaagg gcttgttcag aggcaatttt gtaaacaatca tccgagttgc gccaaagcaag 180  
gccattgagt tatttgcata tgacactgtc aagaagcaat tatctocgaa acctggagag 240  
cagcctataa tcccaattcc cccctcatca attgcgggtg ctggtgctgg tgtagctct 300  
accctatgta cataccctct tgaactactc aaaactcgcc tctactgttca gagaggggtg 360  
tacaagaact tactcgacgc atttgtgagg atcgttcaag aggaagggtcc tgcagaattg 420  
tatagggggc tcgcccctag tctaattggt gtaatccctt atgctgcaac aaactacttt 480  
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gtgatgactc ttctaattgg atcagctgct ggtgcaattt cgagtagtgc aacatttcca 600  
cttgaggtgg ctgtaagca tatgcaagct ggggctctaa atggaagaca atatgggaac 660  
atgcttcacg cacttgtgag tataacttgaa aaggaaggag ttggtggctt gtatagaggt 720  
ttgggacca gttgcttaaa attggttccct gctgctggga tttctttcat gtgctacgaa 780  
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agctaatttt tggttttgca gattttgctt ttccttgcat atttgaccat ttcaactagg 960  
gtgtttcttt taagttgcat tggctttaag gaaaaaagtt gtattgatta cagactctaa 1020  
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aaaaaaaaa 1089

<210> 14  
<211> 272  
<212> PRT  
<213> Glycine max

<400> 14  
Ala Arg Gly Ala Val Ser Arg Thr Ala Val Ala Pro Leu Glu Thr Ile  
1 5 10 15  
Arg Thr His Leu Met Val Gly Ser Cys Gly His Ser Thr Ile Gln Val  
20 25 30  
Phe Gln Ser Ile Met Glu Thr Asp Gly Trp Lys Gly Leu Phe Arg Gly  
35 40 45



<222> (383)  
 <223> n = a, c, g or t

<220>  
 <221> unsure  
 <222> (449)  
 <223> n = a, c, g or t

<400> 15  
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 cgctcgctc gtcattggaca agaagaactg gttattgcgg ccggtccctg aggtcgctt 180  
 cccttgagc tcgcagccc agtccaggag cttggacttc ccacgcaggg ctctgttcgc 240  
 cagcgtggga ctcagcctgt cccacggngc cccgccggtg ggcgcgcgagc atgacgggaa 300  
 ggctcggccc gccgacgacg tctcacacca agctcgcatc cgcgggagcag gcgggcgtcc 360  
 agaaggccca gaaggcgaaa aangggcaaaa agcagcagct gagtctgaag gaagggtgagg 420  
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<210> 16  
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 <212> PRT  
 <213> Triticum aestivum

<220>  
 <221> UNSURE  
 <222> (104)  
 <223> Xaa = any amino acid

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 Ala Ser Leu Val Met Asp Lys Lys Asn Trp Leu Leu Arg Pro Val Pro  
 20 25 30  
 Glu Val Ala Phe Pro Trp Ser Ser Gln Pro Glu Ser Arg Ser Leu Asp  
 35 40 45  
 Phe Pro Arg Arg Ala Leu Phe Ala Ser Val Gly Leu Ser Leu Ser His  
 50 55 60  
 Gly Ala Pro Pro Val Ala Arg Glu His Asp Gly Lys Ala Arg Pro Ala  
 65 70 75 80  
 Asp Asp Val Ser His Gln Ala Arg Ile Arg Gly Arg Gly Gly Arg Pro  
 85 90 95  
 Glu Gly Pro Glu Gly Glu Lys Xaa Gln Lys Ala Ala Ala  
 100 105

<210> 17  
 <211> 1625  
 <212> DNA  
 <213> Triticum aestivum

<400> 17  
 ggccagttag ggagtgaagg actgaagaac tcctaggcag ggcacgtatc agttctgtct 60  
 tgcttcctcg agatggcggc ggcaatggcc gcgacgacaa tggtgaccaa gaacaaccgc 120

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gcctcgctcg tcatggacaa gaagaactgg ttattgcggc cggtccttga ggtcgcttc 180
ccttgagct cgcagccga gtccaggagc ttggacttcc cacgcagggc tctgttcgcc 240
agcgtgggac tcagcctgtc ccacggcgcc ccgccggtag cgcgcgagca tgacgggaag 300
gctcggcccg ccgacgacgt cgcacaccag ctgcgagccg cgggcgagggc gggcgctccag 360
aaggcccaga aggcgaaaaa ggccaaaaag cagcagctga gtctgaggaa ggtgagggtc 420
aagatcggca acccgcacct gcggcggtcg gtcagcggcg ccatcgccgg cgccgtgtcg 480
aggactttcg tggcgccact ggagacgacg aggcagcacc tgatgggtggg gagctccggc 540
gccgactcca tggccggggg tttccggtgg atcatgcgga cggaggggtg gcccggcctc 600
ttccgcgcca acgccgtcaa cgtcctccgc gtcgcgccaa gcaaggccat cgagcacttc 660
acttacgaca cggcgaagaa gtacctgacc ccggaggccg gcgagccagc caaggtcccc 720
atccccacgc cgctcgtcgc cggagcgctc gccggagtgg cgtcaaccct gtgcacctat 780
cccatggagc tcgtcaagac ccgtctcacc atcgagaagg acgtgtacga caacctcctc 840
cacgcgttcg tcaagatcgt gcgcgacgaa gggccggggg agctgtaccg cgggctggcg 900
ccgagcctga tcggcgtggg gccgtacgcg gcggccaaact tctacgcta cgagacgctg 960
cgcggcggtg accgcgcgc gtccgggaaa gaggaggtgg gcaacgtccc gacgctgctg 1020
atcgggtccg cggcgggcgc catagccagc acggccacgt tcccgtgga ggtggcgcg 1080
aagcagatgc aggtgggcgc cgtgggcggg aggcaggtgt acaagaacgt gctgcacgcc 1140
atgtactgca tcctcgagaa ggagggcacc gccgggctct acccggggtc cggccccagc 1200
tgcataaagc tcatgcccgc cgccggcatc tccttcatgt gctacgaggg ctgcaagaag 1260
atacttgtcg acgagaaaga agacggcggc gccgcgagc cccaggagga gacggagacc 1320
ggacaggcag gaggacaggc ggcgcccagg agctcgaacg gtgatcggcc atgaactaga 1380
tgaagcatta tggtgaccgt caaaatcaga agaaaatgcy tgatttgaaa tttttgaagt 1440
gtagagccta ttgcgattga atcctaagct ggaagtggcg ccttagaagt tgaatttcgt 1500
ttgttcagg gaacatgctc cgtttcagta atgccgtcga atgatttatg gcacctttct 1560
gtaatcaatt caataaggaa gaagtccact tttggacctt caaaaaaaaa aaaaaaaaaa 1620
aaaaa 1625

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<210> 18  
 <211> 433  
 <212> PRT  
 <213> Triticum aestivum

<400> 18  
 Met Ala Ala Ala Met Ala Ala Thr Thr Met Val Thr Lys Asn Asn Arg  
 1 5 10 15  
 Ala Ser Leu Val Met Asp Lys Lys Asn Trp Leu Leu Arg Pro Val Pro  
 20 25 30  
 Glu Val Ala Phe Pro Trp Ser Ser Gln Pro Glu Ser Arg Ser Leu Asp  
 35 40 45  
 Phe Pro Arg Arg Ala Leu Phe Ala Ser Val Gly Leu Ser Leu Ser His  
 50 55 60  
 Gly Ala Pro Pro Val Ala Arg Glu His Asp Gly Lys Ala Arg Pro Ala  
 65 70 75 80  
 Asp Asp Val Ala His Gln Leu Ala Ala Ala Gly Glu Ala Gly Val Gln  
 85 90 95  
 Lys Ala Gln Lys Ala Lys Lys Ala Lys Lys Gln Gln Leu Ser Leu Arg  
 100 105 110  
 Lys Val Arg Val Lys Ile Gly Asn Pro His Leu Arg Arg Leu Val Ser  
 115 120 125  
 Gly Ala Ile Ala Gly Ala Val Ser Arg Thr Phe Val Ala Pro Leu Glu  
 130 135 140

Thr Ile Arg Thr His Leu Met Val Gly Ser Ser Gly Ala Asp Ser Met  
 145 150 155 160  
 Ala Gly Val Phe Arg Trp Ile Met Arg Thr Glu Gly Trp Pro Gly Leu  
 165 170 175  
 Phe Arg Gly Asn Ala Val Asn Val Leu Arg Val Ala Pro Ser Lys Ala  
 180 185 190  
 Ile Glu His Phe Thr Tyr Asp Thr Ala Lys Lys Tyr Leu Thr Pro Glu  
 195 200 205  
 Ala Gly Glu Pro Ala Lys Val Pro Ile Pro Thr Pro Leu Val Ala Gly  
 210 215 220  
 Ala Leu Ala Gly Val Ala Ser Thr Leu Cys Thr Tyr Pro Met Glu Leu  
 225 230 235 240  
 Val Lys Thr Arg Leu Thr Ile Glu Lys Asp Val Tyr Asp Asn Leu Leu  
 245 250 255  
 His Ala Phe Val Lys Ile Val Arg Asp Glu Gly Pro Gly Glu Leu Tyr  
 260 265 270  
 Arg Gly Leu Ala Pro Ser Leu Ile Gly Val Val Pro Tyr Ala Ala Ala  
 275 280 285  
 Asn Phe Tyr Ala Tyr Glu Thr Leu Arg Gly Val Tyr Arg Arg Ala Ser  
 290 295 300  
 Gly Lys Glu Glu Val Gly Asn Val Pro Thr Leu Leu Ile Gly Ser Ala  
 305 310 315 320  
 Ala Gly Ala Ile Ala Ser Thr Ala Thr Phe Pro Leu Glu Val Ala Arg  
 325 330 335  
 Lys Gln Met Gln Val Gly Ala Val Gly Gly Arg Gln Val Tyr Lys Asn  
 340 345 350  
 Val Leu His Ala Met Tyr Cys Ile Leu Glu Lys Glu Gly Thr Ala Gly  
 355 360 365  
 Leu Tyr Arg Gly Leu Gly Pro Ser Cys Ile Lys Leu Met Pro Ala Ala  
 370 375 380  
 Gly Ile Ser Phe Met Cys Tyr Glu Ala Cys Lys Lys Ile Leu Val Asp  
 385 390 395 400  
 Glu Lys Glu Asp Gly Gly Ala Ala Glu Pro Gln Glu Glu Thr Glu Thr  
 405 410 415  
 Gly Gln Ala Gly Gly Gln Ala Ala Pro Lys Ser Ser Asn Gly Asp Arg  
 420 425 430  
 Pro

<210> 19

<211> 1267  
 <212> DNA  
 <213> Triticum aestivum

<400> 19  
 caagattaag gttgggaatt cacacctcaa gaggtctatc agtgggggga ttgcaggagc 60  
 agtgtcaagg acagttgtgg cgccttttga gacgattagg acacatttga tggtcggcag 120  
 caatgggaat tcatctacgg aggtgtttga ctccatcatg aagaatgaag gatggactgg 180  
 gttgttccgc ggcaatttgg ttaatgtcat tcgagtcgcc ccgagcaaag caatcgagct 240  
 ttttgccctt gatacagcta agaagttcct aacccccaaa tctggggaag aacagaagat 300  
 cccaatccct ccttcactag tggcaggagc ttttgctggt gtcagctcaa ctctgtgtac 360  
 atacctctg gaactaatta agactcgatt aaccatacag agaggtgtgt atgataactt 420  
 cctccatgca tttgtgaaaa ttgtccgtga agaaggccct gctgagctgt atagaggctt 480  
 aaccccaagt ctaatcggag tggtgccata tgcagcaacc aactacttcg cgtatgacac 540  
 ccttaagaag gtgtacaaga aaatgttcaa gacaaatgaa atcggcaacg ttccaaccct 600  
 gctcattggg tctgctgcag gagccatctc aagcactgcc acatttcctc tcgaggttgc 660  
 tcgcaagcac atgcaagtcg gagctgttgg cggccggaag gtatacaaga acatgcttca 720  
 cgctctcctg accattctcg aggacgaagg ggttgggggc ctctacagag gactggggcc 780  
 tagttgcatg aagctggtgc ctgctgctgg gatttcgttt atgtgctacg aagcttgcaa 840  
 gaagatactg attgaggaag agaacgaatg aagcgttctt caacagcggc gtcataaagg 900  
 ggtagtggct taaattttgt ttgctgatcc tatgatggat ctgaatctga tcctggggcc 960  
 ttctcccaa gataccagag ctcggtttcg cgacggacag cggggaaact tttggcctcc 1020  
 tttgaatgaa gttacctgac taagctcaat aactgttgct acaagatttc aaactctttc 1080  
 tttagtctca gcttgccctg acaaaaagt acatatgttt ccagtttgct ttgggatact 1140  
 atatgcatga atgaagcgtg tgttttttag gaagtctttg ttagggggta tatgaaacca 1200  
 gtgaaattaa ctccggagac atcaaatttt acatgattga catcaaaaaa aaaaaaaaaa 1260  
 aaaaaaa 1267

<210> 20  
 <211> 289  
 <212> PRT  
 <213> Triticum aestivum

<400> 20  
 Lys Ile Lys Val Gly Asn Ser His Leu Lys Arg Leu Ile Ser Gly Gly  
 1 5 10 15  
 Ile Ala Gly Ala Val Ser Arg Thr Val Val Ala Pro Leu Glu Thr Ile  
 20 25 30  
 Arg Thr His Leu Met Val Gly Ser Asn Gly Asn Ser Ser Thr Glu Val  
 35 40 45  
 Phe Asp Ser Ile Met Lys Asn Glu Gly Trp Thr Gly Leu Phe Arg Gly  
 50 55 60  
 Asn Leu Val Asn Val Ile Arg Val Ala Pro Ser Lys Ala Ile Glu Leu  
 65 70 75 80  
 Phe Ala Phe Asp Thr Ala Lys Lys Phe Leu Thr Pro Lys Ser Gly Glu  
 85 90 95  
 Glu Gln Lys Ile Pro Ile Pro Pro Ser Leu Val Ala Gly Ala Phe Ala  
 100 105 110  
 Gly Val Ser Ser Thr Leu Cys Thr Tyr Pro Leu Glu Leu Ile Lys Thr  
 115 120 125  
 Arg Leu Thr Ile Gln Arg Gly Val Tyr Asp Asn Phe Leu His Ala Phe

130		135		140
Val Lys Ile Val Arg Glu Glu Gly Pro Ala Glu Leu Tyr Arg Gly Leu				
145		150		155
Thr Pro Ser Leu Ile Gly Val Val Pro Tyr Ala Ala Thr Asn Tyr Phe				
	165		170	175
Ala Tyr Asp Thr Leu Lys Lys Val Tyr Lys Lys Met Phe Lys Thr Asn				
	180		185	190
Glu Ile Gly Asn Val Pro Thr Leu Leu Ile Gly Ser Ala Ala Gly Ala				
	195		200	205
Ile Ser Ser Thr Ala Thr Phe Pro Leu Glu Val Ala Arg Lys His Met				
	210		215	220
Gln Val Gly Ala Val Gly Gly Arg Lys Val Tyr Lys Asn Met Leu His				
	225		230	235
Ala Leu Leu Thr Ile Leu Glu Asp Glu Gly Val Gly Gly Leu Tyr Arg				
	245		250	255
Gly Leu Gly Pro Ser Cys Met Lys Leu Val Pro Ala Ala Gly Ile Ser				
	260		265	270
Phe Met Cys Tyr Glu Ala Cys Lys Lys Ile Leu Ile Glu Glu Glu Asn				
	275		280	285

Glu

<210> 21  
 <211> 436  
 <212> PRT  
 <213> Zea mays

<400> 21
Met Ala Ala Thr Met Ala Val Thr Thr Met Val Thr Arg Ser Lys Glu
1 5 10 15
Ser Trp Ser Ser Leu Gln Val Pro Ala Val Ala Phe Pro Trp Lys Pro
20 25 30
Arg Gly Gly Lys Thr Gly Gly Leu Glu Phe Pro Arg Arg Ala Met Phe
35 40 45
Ala Ser Val Gly Leu Asn Val Cys Pro Gly Val Pro Ala Gly Arg Asp
50 55 60
Pro Arg Glu Pro Asp Pro Lys Val Val Arg Ala Ala Asp Asn Cys Asp
65 70 75 80
Ile Ala Ala Ser Leu Ala Pro Pro Phe Pro Gly Ser Arg Pro Pro Gly
85 90 95
Arg Arg Gly Arg Gly Ser Glu Glu Glu Glu Ala Glu Gly Arg Arg His
100 105 110

Glu Glu Ala Ala Ala Ala Gly Arg Ser Glu Pro Glu Glu Gly Gln Gly  
 115 120 125  
 Gln Asp Arg Gln Pro Ala Pro Ala Arg Leu Val Ser Gly Ala Ile Ala  
 130 135 140  
 Gly Ala Val Ser Arg Thr Phe Val Ala Pro Leu Glu Thr Ile Arg Thr  
 145 150 155 160  
 His Leu Met Val Gly Ser Ile Gly Val Asp Ser Met Ala Gly Val Phe  
 165 170 175  
 Gln Trp Ile Met Gln Asn Glu Gly Trp Thr Gly Leu Phe Arg Gly Asn  
 180 185 190  
 Ala Val Asn Val Leu Arg Val Ala Pro Ser Lys Ala Ile Glu His Phe  
 195 200 205  
 Thr Tyr Asp Thr Ala Lys Lys Phe Leu Thr Pro Lys Gly Asp Glu Pro  
 210 215 220  
 Pro Lys Ile Pro Ile Pro Thr Pro Leu Val Ala Gly Ala Leu Ala Gly  
 225 230 235 240  
 Phe Ala Ser Thr Leu Cys Thr Tyr Pro Met Glu Leu Ile Lys Thr Arg  
 245 250 255  
 Val Thr Ile Glu Lys Asp Val Tyr Asp Asn Val Ala His Ala Phe Val  
 260 265 270  
 Lys Ile Leu Arg Asp Glu Gly Pro Ser Glu Leu Tyr Arg Gly Leu Thr  
 275 280 285  
 Pro Ser Leu Ile Gly Val Val Pro Tyr Ala Ala Cys Asn Phe Tyr Ala  
 290 295 300  
 Tyr Glu Thr Leu Lys Arg Leu Tyr Arg Arg Ala Thr Gly Arg Arg Pro  
 305 310 315 320  
 Gly Ala Asp Val Gly Pro Val Ala Thr Leu Leu Ile Gly Ser Ala Ala  
 325 330 335  
 Gly Ala Ile Ala Ser Ser Ala Thr Phe Pro Leu Glu Val Ala Arg Lys  
 340 345 350  
 Gln Met Gln Val Gly Ala Val Gly Gly Arg Gln Val Tyr Gln Asn Val  
 355 360 365  
 Leu His Ala Ile Tyr Cys Ile Leu Lys Lys Glu Gly Ala Gly Gly Leu  
 370 375 380  
 Tyr Arg Gly Leu Gly Pro Ser Cys Ile Lys Leu Met Pro Ala Ala Gly  
 385 390 395 400  
 Ile Ala Phe Met Cys Tyr Glu Ala Cys Lys Lys Ile Leu Val Asp Lys  
 405 410 415  
 Glu Asp Glu Glu Glu Asp Glu Ala Gly Gly Gly Glu Asp Asp Lys  
 420 425 430



Lys Lys Val Glu  
435